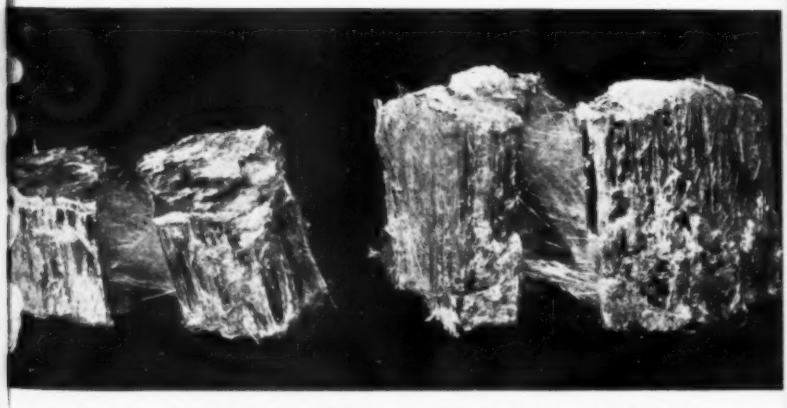
ASBESTOS



JUNE, NINETEEN THIRTY-SEVEN

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"ASBESTOS"

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CONTINUOUSLY SINCE THAT DATE

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WHAT'S NEW--

in the Asbestos-Cement Line?

This question was asked of American manufacturers of Asbestos-Cement Products, and while nothing startling has been developed recently, there are some interesting products which are being placed on the market, or have been there only a short time.

Perhaps the most prominent of these is the "white" asbestos-cement siding or clapboarding. For roofing purposes the darker shades and soft colors are most popular from an architectural point of view, but for siding just the opposite is true. White paint or stucco is used on a large proportion of the houses being built or "modernized", with dark shades for the roofs and blinds or shutters. Green was at one time very popular for roofs and blinds, but there seems at this time to be an increasing tendency to use a dark red shade of paint for the blinds, or even dark blue.

It was therefore obvious that if a very light—if possible white-colored asbestos-cement shingle or siding could be offered, a large market would be opened up to asbestos cement shingles which previously had gone to the lumber and paint people in the shape of clapboarding and white paint.

Therefore white clapboarding or siding was developed in asbestos-cement. It is most attractive and the upkeep cost is practically nothing—besides giving absolute fire protection.

The asbestos-cement clapboards are made in plain surface, corresponding exactly to wooden clapboards; or some have irregular surfaces to simulate "shakes", hand-hewn shingles, hand cut shingles, and so on. Some have the straight buttline; others have a wavy buttline, still others, of the clapboard type but known as "siding" come in the staggered buttline. The white color, combined with the straight or slightly wavy buttline makes to

our minds at least, the most attractive asbestos-cement siding material yet put on the market.

The American manufacturers have not gone into the "specialty" field as our English and European cousins have; preferring to confine their materials for the most part to the building materials line. In England and on the Continent they make sinks, bathtubs, drainboards and other bathroom fixtures, pottery and the like; also heavy tiles of various shapes. They also manufacture what is known as a "building slab" for use under "built-up" roofing on flat roofs, asbestos-cement lathing for use, like wood lathing, as a base for plaster; asbestos-cement "core" or backing for rubber floor tiles and **embossed** asbestos cement sheets for use on walls, ceilings and partitions.

When it comes to the use of asbestos-cement in the industrial field, a new use for Asbestos Cement products has been designed by the Philip Carey Company in utilizing their Carey Insulated Sheathing for roof deck purposes. This construction is known as "Carey Insulated Sheathing Roof Deck" and is just about ready to be introduced formally to the trade altho there have been several applications made within the last year which, the manufacturers tell us, have proven that it is entirely practical and that the deck will substantiate all statements made about it.

With the Carey Insulated Sheathing special steel members and special steel clamps have been designed, patents on which have been applied for. This deck, it is said, will be an economical construction, very rigid and strong, altho extremely light in weight. It also has advantage points of being fire resistant, non-expanding, a thin deck yet insulated and a permanent construction. Advertising matter on this roof deck should be ready sometime in June or July.

Seemingly there is no end to the many articles which can be made successfully of asbestos-cement; choice of them is limited only by problems of distribution and competition.

"ASBESTOS" wishes to thank the various manufacturers of asbestos-cement products particularly Philip Carey Co., Johns-Manville, Keasbey & Mattison Co. and The Ruberoid Co. for information which they have kindly supplied for use in this article.

LIMITING SHIP FIRES—

Germany Experiments with Various Constructional Materials

By Geoffrey Blackall

A valuable analysis of the recent comprehensive fire tests carried out by the Hamburg fire brigade, in conjunction with shipyards and shipowners, with the object of improving the protection of passenger liners against fire, has recently been published by Oberbaurat Dr. Schubert in the German "Hansa."

Dr. Schubert says that during these experiments, all of which involved the use of asbestos on a substantial scale, special attention was paid to the finding of materials and forms of construction which would prevent any rapid extension of fire in the passenger accommodation. That is to say, a general plan to hinder the speed of fire development so as to enable effective action to be taken even under unfavorable conditions.

Experience has shown that the fire danger which threatens a ship consists in any fire in the passenger quarters being extended by the plywood and the like of the corridors, staircases, and elevator shafts. Fire, once started, is aided by the drafts which occur under the influence of heat, and it then rapidly attacks the corridors and air shafts without any resistance being offered by special forms of construction.

As a result of these defects which have been observed, the following principles were adhered to in making the tests:

1. Combustible material must be extensively omitted in the corridors and staircase shafts of the superstructure. Material easily combustible, such as plywood, should not be used. As a result of the non-use of plywood for covering the iron bulkheads, it was necessary to find a new method of construction which would correspond to the conditions required so as to give security against fire and yet be economic and provide a comfortable appearance.

2. Having in mind the fact that large quantities of

combustible material would still be present in passenger ships, and that fires developing volumes of smoke could occur at any moment, a form of construction would have to be found that was similar to the fire-walls which were used in buildings ashore. These partitions could be arranged at certain distances as fire bulkheads, dividing up the ship into a number of compartments, and thus provide the assurance that tho a fire might destroy the compartment lying between two fire bulkheads, yet it would not involve the safety of the ship.

Such a bulkhead construction must actually resist the fire, must preserve material cohesion and, further, prevent the extension of the fire. This last condition can only be considered as attained if during the test the superficial temperature on the side lying away from the fire, during the first hour of the test, does not exceed 320 deg. F.

The tests of the constructional material placed at disposal by the shipping companies were carried out in a test house consisting of steel plate specially erected for the purpose. The temperature required for the experiments, namely, about 1,500 deg. F., was obtained by burning dry, soft wood logs. The measurement of the temperature was obtained by pyrometric cones, graphite and electrical resistance thermometers.

The tests included the following building material or construction:

a. Xylotext panels, which are plywood panels arranged either on one or both sides with a layer similar to asbestos-cement. Panels of various strengths were tested.

b. Mauser wall, which consists of double steel plates from about 0.8 to 0.9 mm. thick. In the hollow 20 mm. thick, between the two plates, there are strengthening steel plates. The space between these stiffenings is filled up with honeycomb asbestos.

c. Alfol fire protection construction, which is arranged on both sides of a steel plate bulkhead, and consists of four layers of wrinkled insulation metal which are fixed by a thin asbestos wall. The finishing off of the rooms consists of the usual plywood panels.

d. Alfol room bulkhead construction, where the bulk-

head consists of two plywood or asbestos slate panels at a distance of 40 mm. The plywood is insulated on the inside with asbestos. The air space lying between the walls is filled by crumpled metal insulation.

The facings of the corridors and the staircase shafts with Xylotext panels covered on both sides with protective layers is, from the point of view of fire, a substantial improvement compared with the usual fitting of unprotected plywood panels. The asbestos-cement layer is non-inflammable, and prevents for a certain time the ignition of the plywood underneath.

The protection is ineffective if the asbestos layer disintegrates under heat, whether into parts or on the whole surface, as was observed during the tests on one panel under the cover. If the asbestos cement layers are combined with the plywood in such a way that a disintegration of the layer is avoided on the surface, a further increase of protection against fire is obtained. This is advised.

Despite the fact that the Xylotext panel develops the same heat as a plywood panel of the same strength, the combustion would be less dangerous because it is slower and is in two processes, one following upon the other. These observations are only valid on condition that the asbestos layer does not disintegrate. It is necessary, therefore, to increase the adhesive capacity of the asbestos-cement layer on the plywood as much as possible.

Plywood panels covered only on the one side with asbestos cement do not show such favorable results. They prevent for a time the ignition of the plywood, but as soon as the protective layer has attained a temperature of about 480-500 deg. F., the combustion of the plywood occurs. The course of the fire, which was observed for a long period in connection with panels protected on both sides, is here nonexistent. For the development of the fire damage, this fact is important, because a quicker combustion means greater heat. On this account, the approach for the effective fighting of the fire is rendered difficult, and, furthermore, each increase in temperature hastens the extension of the fire.

Mauser wall is of very solid construction; its outer form and also the filling consisting of honeycomb asbestos

did not change substantially as a result of the fire. Yet the above construction cannot be considered as a fire bulkhead, because the passage of heat is too great. Only 15 minutes after the start of the fire a superficial temperature of 400 deg. F. was measured on the far side. However, it is possible to overcome this defect by increased filling with insulation material and by careful insulation of the stiffenings and of the steel-tube springs. For the closing off of cabins towards the corridors this construction is admirably suited. A lighter construction should be completely adequate for this purpose.

Tests upon Alfol fire bulkhead construction showed that after the burning out of the outside plywood covering there were no changes in the construction despite the fact that the first experiment lasted two hours. The temperature measurements showed a slow increase of the temperature within the bulkhead construction.

The plywood bulkhead fitted up on the opposite side was not touched by the fire, despite the fact that it had to undergo two tests like the other part of the fire bulkhead lying in the same room. With a fire compartment temperature of 1,500 deg. F., the superficial temperature of the bulkhead construction lying on the side away from the fire only attained a top figure of 60 deg. F. after a test lasting one hour, and 62 deg. F. after a two hours' test.

By an increase of the fire compartment temperature to 1,750 deg. F., no change occurred in the superficial temperature after a test of one hour. The efficiency of this form of insulation of a bulkhead stands and falls with the continuance of the protecting wall of asbestos. Should large parts of this wall be destroyed, however, it may be presumed that the destruction of the insulation lying behind will occur at the same time. An increased firmness of the asbestos sheet by fitting in a wire mesh, or something similar, would have a favorable effect on the whole construction.

The Alfol bulkhead effectively prevented for 60 minutes the passage of the fire. On taking down the

ASBESTOS

Arizona Crude
Canadian Crude
Canadian Spinning Fibre
Canadian Shingle Fibre
Cyprus Asbestos
Italian Crude
Russian Crude
Rhodesian Crude
South African Blue Crude
South African Yellow Crude

ASBESTOS LIMITED INC.

8 West 40th Street : New York City

Works: MILLINGTON, N. J

construction at the end of the test, a part of the plywood surface ignited. The cause of this could not be accurately ascertained, but it is presumed that part of the wooden frame lying on the side got loose during the fire test, and that glowing wood embers fell between the layers. After the admission of air this led to the firing of the plywood when the insulation was removed.

Fitting-in of this construction as a partition of the cabins provides a substantial improvement in fire protection. A condition, however, is that in place of plywood panels either Xylotext walls asbestos-cement protected on both sides, or a similar asbestos material of equal value, should be used.

Editor's Note: The U. S. Department of Commerce, thru the American Bureau of Shipping (as we understand it) have conducted tests somewhat similar to the above on the S. S. Nantasket, with the same aim, that of fireproofing of ships. Up to the present time, however, we have found it impossible to obtain information as to the outcome of these United States tests as no detailed information has been released for publication.

'WAY BACK

Before me as I write, I have a leather covered, yellow paged, mellowed with the years, pamphlet, published about 1890.

It is all about 85% Magnesia, its characteristics, composition, use, efficiency and desirability.

The booklet was published by Macan & Co., pioneers in higher temperature insulations, located at 514-18 Beach Street, Philadelphia.

In the book are endorsements by Baugh & Co. (fertilizers); Knight & Co. (sugar); New York & Brooklyn Bridge Engineers, Edison General Electric Co., and a host of others who, back in those days, nearly fifty years ago, realized the supreme qualities of this product for its purpose.

Macan & Co. first began the exploitation of 85% Magnesia in 1886 and in 1889 had already succeeded beyond expectations in putting it over. Many of our readers will remember Wm. A. Macan, founder of Macan & Co., later with Keasbey & Mattison Company and then, up to his death, Vice President of Ehret Magnesia Manufacturing Company.

A perusal of this old booklet recalls pleasant memories of a man who never compromised 85% Magnesia with anything or anybody. To Mr. Macan it was Magnesia or nothing, within the temperature zone occupied by Magnesia. Never would Macan admit that any condition, wet or dry, overhead or underground, called for this, that or the other substitute for Magnesia.

This was not obstinacy because he was always ready and able to prove his contention, that 85% Magnesia was the right insulation.

As we reflect upon those days and compare them with the myriad different products being offered and touted for the same job, we wonder if Macan's plan was not infinitely sounder than this modern one.

In any case we rise to salute the memory of a man who was the outstanding pioneer in his field and who contributed much to the development of 85% Magnesia.

—*Contributed.*

AVERAGE WHOLESALE PRICES[1]

On Various Grades of Canadian Asbestos from 1926 to 1936

Inquiries for average prices of asbestos crudes and fibres during the past several years have resulted in a tabulation made up and furnished by the Dominion Bureau of Statistics, Internal Trade Branch, at Ottawa.

These prices are average for the year on Canadian grades, f. o. b. Mine and cover the last ten years.

	Asbestos per ton f. o. b. mine					
	Crude No. 1	Crude No. 2	Spinning Stocks	Shingle Stocks	Mill Board & Paper Stocks	Fillers Floats and Other Short Fibres
1926	504.16	289.58	185.00	65.00	45.00	15.00
1927	525.00	312.50	193.75	70.83	39.17	15.00
1928	575.00	375.00	225.00	80.00	35.00	15.00
1929	575.00	375.00	225.00	80.00	35.00	15.00
1930	570.83	362.50	216.67	78.33	34.17	14.50
1931	466.67	241.67	135.00	65.00	30.00	10 67
1932	450.00	200.00	110.00	60.00	30.00	10.00
1933	450.00	200.00	110.00	60.00	30.00	11 33
1934	450.00	200.00	120.00	60.00	32.50	12.00
1935	500.00	200.00	120.00	60.00	32.50	12.00
1936	545.83	200.00	120.00	60.00	32.50	12.00

[1]Refer to the February 1924 issue of "ASBESTOS" (Page 4) for similar information in graph form for the years 1920 to 1923 inclusive.

ASBESTOS WICKING--

Oil Burner Equipment Accounts for the Rising Demand

By M. E. Lerner

Altho asbestos wicking has been on the market for several years, it was not until recently that asbestos wicking took its rightful place in the field and became a competitor to be reckoned with by other types of wicking to the extent that today there is a finely divided opinion as to which type of wicking—asbestos, cotton, etc., is best adaptable for specific purposes.

As might be expected there are several types of asbestos wicking on the market, altho generally speaking they can be divided into two simple classifications: the commercial quality and the higher grade.

Asbestos Wick Used by One of the Oil Stove Manufacturers

The first type is usually woven from basic asbestos yarn containing approximately 80 per cent asbestos, while the higher grade type, generally known as AA grade, consists of yarn which contains 90 per cent or more of asbestos. The higher grade in actual use, because of its higher asbestos content, has a tendency to last longer than the commercial grade.

Weaving designs featuring asbestos wicking are practically unlimited, each manufacturer adopting those constructions which, in his opinion, and the opinion of his customers (oil burner manufacturers for the most part) are best suited for their purposes. A fairly extensive survey indicates that the types described in the following paragraphs are the most popular and the best suited to the various requirements demanded of wicking materials.

The plain wire interwoven tape was one of the earliest

styles of asbestos wicking on the market and is the type most used on early styles of burners; in fact it is still preferred by many burner manufacturers.

A later development of this style was the tape which had three reinforcement wires across the top of the asbestos yarn, keeping the material rigid and firmly in place, so that the asbestos yarn did not curl or collapse as the tape often does under certain conditions.

Another later development included three reinforcement wires across the top but also had a looped edge which allowed free circulation of the fuel; this type having met with almost immediate approval in the field.

Since some engineers expressed a preference for a tape having larger interstices, which they felt would allow for better pick-up of the fuel, the next development, therefore, consisted of asbestos tape manufactured in this manner, with single reinforcing wires used at each edge of the material.

A further development of this last idea is found in the wicking which has a weaving of the looped bottom edge for free circulation, the edge also being reinforced with wire for the purpose of rigidity. The lower half of this particular wick is woven with large interstices to allow plenty of pick-up, while the upper half is woven closer in order to give the material a greater vaporization area.

Our survey disclosed that the most preferred type of wicking consists of asbestos yarn and metal wires woven together, the asbestos generally being of the long fibre type which, according to results of many tests, does not flake or rub off, thus giving the finished product greater endurance and longer life in actual application.

Asbestos wicking must be specifically selected to meet each type of burner, that is, must be of positive thickness and weight in order to function properly when the burner is in use. Lighter weight materials, as a rule, do not function properly and, therefore , the long asbestos fibres spun around metal or compressed wires in a compact fabric is the preferred type. Not only do the wire cores keep the wick rigid at all times, making it easy to clean and remove from the burner bowl whenever necessary, but it makes unnecessary the reinforcement of the wick with a tin band or a

similar arrangement, a practice indulged in of necessity with various types of wickings, indicating one of the reasons for the growing popularity of asbestos wicking. Naturally, asbestos wicks assure sufficient absorbing capacity for quick lighting as well as permitting close and accurate regulation of flame.

Oil burner manufacturers prefer to buy asbestos wicking in large loose rolls, generally containing 100 feet and service men doing repair work also prefer that type of package. The retail trade, making direct sales to consumers who install replacement wicks themselves, prefer the wicking put up in carton form, each carton containing from five to six feet.

Current types of asbestos wicking furnished to all burner manufacturers is the result of experience developed thru years of actual service in supplying kindler wicking. Asbestos has achieved its position as the preferred type of wicking material because of the unusual capillary properties which assure superior ignition or kindling ability. Wicking of any kind must combine dependable performance with extensive service. That both requirements are met by the asbestos type of wicking is proven by the rapid growth in its popularity.

The popularity of asbestos wicking appears to date from the time of the development and introduction of the so-called blue flame oil burners, altho it appeared on the market as a competitor of other wicking materials prior to that time.

Study of the wicking market indicates that asbestos wicking has almost entirely replaced other types; that wire reinforced asbestos yarn is the preferred type and that weaving designs are non-standardized because each burner manufacturer prefers to select his own design, while the retail consumer of wicking accepts the product across the retail counter without question.

A new type automobile battery has mats of spun glass between the plates preventing the lead particles from dropping and providing a battery life said to equal the car's life.—*The Chemical Digest.*

MARKET CONDITIONS

GENERAL BUSINESS

The June letter of the National City Bank of New York, it seems to us, sums up the general business situation in a very able manner, in its first few paragraphs. They read:

"The reports of business during May have been of the same general character as in April. The industries have well-filled order books to work on, and production in most lines is holding at peak levels, past the time when a seasonal tapering off is usually expected. In factory operations percentage gains over last year compare favorably with previous months, the indexes of production averaging 18 to 20 per cent higher, and June is certain to be another good month. Employment and payrolls are at the peak of the recovery.

"The continued large increase in farm income, 24 per cent in April as compared with a year ago, is another item on the optimists' side. The crop start is fairly favorable, and in the Northwest is inspiring hopes of better business conditions than in any recent year. The railroads are doing well, with car loadings running about 15 per cent over a year ago, and earnings and purchases up by a greater margin.

"On the other hand, the slackening of new business in the industries which appeared in April has carried over into May also. In consumers' goods lines particularly orders have run well below shipments for the second successive month. Disappointment with retail sales is expressed in some areas."

ASBESTOS - RAW MATERIAL

In addition to a very splendid demand for all types of Chrysotile Asbestos, there is now also a very large demand for Crocidolite and Amosite Asbestos. The prices of Crocidolite and Amosite have advanced due to the increased cost of South African native labor. The high price of gold in South Africa is drawing native labor to gold mining camps and this competition for labor is making the produc-

tion of Crocidolite and Amosite more expensive.

On this page will be noted Current Range of Price on the various Canadian grades of raw asbestos. We are planning to publish this each month as a regular feature, in the hope that it will be helpful to many and interesting to all.

ASBESTOS - MANUFACTURED GOODS

Textiles. There is very little change in this market from last month; the market demand is holding, which means that prices are firm.

Paper and Millboard. Somewhat of a slump, mostly regarded as seasonal, is noticed in this market, very little demand showing at the present time. Prices, however, are holding up well.

Insulation. High Pressure. Demand continues good with deliveries prompt. Prices are firm and prospects for the year excellent.

Insulation. Low Pressure. Usual seasonal drop, together with slackening of building activity, causes quite a let up in demand. Prices are firm.

Asbestos Cement Products. The demand for asbestos-cement shingles, particularly sidings, continues to run well ahead of any previous year and about up to production capacity of the industry. Prices are firm and market conditions generally satisfactory.

The demand for wallboards, tiles, and industrial products, such as the flat and corrugated sheets is also very satisfactory.

The above represent opinions from men in close touch with the various lines. All readers are urged to send their comments on market conditions or any other asbestos subject.

CURRENT RANGE OF PRICE

on Canadian Crudes and Fibres

	Per ton (2000 lbs.) f. o. b. Mine
Group 1 (Crude No. 1)	$550.00 to $600.00
Group 2 (Crude No. 2, Crude Run of Mine or Sundry)	150.00 to 200.00
Group 3 Spinning or Textile Fibre	90.00 to 175.00
Group 4 Shingle Fibre	45.00 to 65.00
Group 5 Paper Fibre	32.50 to 42.50
Group 6 Waste, Stucco or Plaster	29.00
Group 7 Refuse or Shorts	10.00 to 23.00

CONTRACTORS AND DISTRIBUTORS PAGE

Overhead[1]-- Summary

There can be no compromise with this subject of overhead. It must be paid either out of returns from sales or from capital.

Together with material and labor costs, every job has an indirect cost which is substantial and of equal importance. A disregard for this indirect or overhead cost is a disregard for individual contractor rights, his office employees, his mechanical labor, and for the manufacturer who looks to him for the continued sale of materials.

The individual insulation contractor can control his own business to only a limited extent. His price level and possibilities of profitable operation are vitally affected by the methods of the whole group.

Our sources of supply should interest themselves. They should assist and influence their contractors toward profitable operation. They should maintain a strict credit check on contractors for their own protection and influence upon the industry. Permitting an inexperienced or unfair operator to bid on work beyond his demonstrated ability has time and again disrupted the efforts of groups to improve their local conditions. In my years of business experience, I have had manufacturers urge me to increase volume. I have listened to their comments about other concerns who can operate on practically no overhead. I have been told about those who lost money on certain jobs and heard of failures because of business volume shrinkage.

If manufacturers would show interest in gross profit or overhead relation to sales; if they, for instance, would offer annually, as a bonus for profitable operation, half the amounts they have paid each year **because of unprofitable operation,** we might all benefit very materially, for profits are the life blood of our future success.

[1]Third (and last) in the series of articles taken from the paper presented by George W. Hinman before a recent meeting of the Asbestos Contractors' New England Association.

Building

Not since May 1930 has residential building been undertaken in such heavy volume as was reported in April of this year. According to F. W. Dodge Corporation the value of residential building operations started during April in the 37 states east of the Rocky Mountains amounted to $108,204,400, marking a gain of 20 per cent over the March figure of $90,167,600 and an increase of 61 per cent over the total of $67,151,000 reported in the same area during April, 1936. The improvement over last April was generally shared by each of the 13 Dodge geographic districts; the most important quantitative gains occurred in the Metropolitan Area of New York and the Middle Atlantic States (Eastern Pennsylvania, Southern New Jersey, Delaware, Maryland, the District of Columbia and Virginia.)

For the initial four months of 1937 the total volume of residential building started in the 37 Eastern States amounted to $339,782,400; this represented an increase of 78 per cent over the figure of $190,986,600 for the corresponding four months of 1936.

Total construction started in the 37 states during April (inclusive of both residential and all other types) amounted to $270,125,200. This was a gain of about 17 per cent over the March figure and was about 16 per cent better than the figure for April 1936. Incidentally, the April 1937 total was the biggest monthly figure since that recorded for August, 1936. Besides residential building, the April 1937 figure included $96,179,300 for non-residential building and $65,741,500 for heavy civil engineering projects, i. e., public works and public utilities.

Total construction started in the 37 Eastern States since January 1, has amounted to $932,455,400. This represents an increase of 18 per cent over the figure of $788,605,400 reported during the initial four months of 1936.

ASBESTOS STOCK QUOTATIONS

	Par.	Low	High	Last
Asbestos Corpn. (Com.) V. T.	np	89	100	95
Certainteed (Com.)	np	14½	17¾	17
Certainteed (6% prior Pfd.)	100	60⅛	75	65½
Flintkote (Com.)	np	29⅛	35⅞	30¼
Johns-Manville (Com.)	np	125	134⅛	130
Johns-Manville (Pfd.)	100	121¼	124⅞	124
Raybestos-Manhattan (Com.)	np	28	34	33
Ruberoid (Com.)	np	85	131	120
Thermoid (Com.)	np	8⅞	10½	9⅛
U. S. Gypsum (Com.)	20	107	116	110
U. S. Gypsum (Pfd.)	100	155¼	161	160

CLEANING OIL-SANDS--

Asbestos a Necessary Factor.

By F. R. Cozzens

Hot air, figuratively speaking, is a public nuisance, but down in the oil-country of Ohio, West Virginia, and Kentucky, hot air in a literal sense is adding thousands of dollars to the value of producing wells.

Back in 1925, when air pressure was first applied to these wells for the purpose of forcing oil thru conglomerate sands, certain operators discovered that air under compression could be heated sufficiently to melt residue from clogged sand channels. The process failed to pass the experimental stage, however, because there was no known method of forcing hot air down an oil-well without risk of explosion.

With the introduction a short time later of asbestos wrapper, and similar forms of plaster insulation, some progress was made. Constant improvements in asbestos insulation have tended to cut installation costs until today with insulated pipe made for the purpose, the modern operator applies air to an oil sand, two thousand feet underground with a heat wastage of less than 5 degrees Of even greater importance is that crew and equipment are immune from the former risk of fire and explosion.

From the moment an oil well is brought into production, natural rock-pressure begins to wane. Weeks, months, and even years may elapse before the waning becomes noticeable, but as rock pressure weakens, the sand channels become clogged with paraffin and sludge. Gradually, the residue increases until the well becomes a stripper, and can no longer be pumped at a profit.

When this stage is reached, and before rock pressure is entirely gone, the operator removes pumping equipment from the well, and obtains a rubber packer, a fraction of an inch smaller than the inside diameter of the casing. This packer is given a heavy coating of asbestos roofing cement to prevent active damage from oil and acid, then is started down the hole on a twenty foot section of insulated pipe. Other sections are added, until the packer is pushed into position at the bottom of the cas-

ing, and just above the oil sand. After the packer, thru action of moisture upon the rubber, has become "set", a process requiring about six hours, loose, short fibre asbestos is dumped down the casing around the insulated pipe. This filler is to prevent excessive heat from reaching the casing while air is being pumped into the sand. Insulated pipe, used to convey air down the hole is usually two inches in diameter, and carries the customary 85% magnesia insulation. In wells over 2000 feet in depth, it is sometimes necessary to install a secondary packer, and an additional top filler of asbestos fibre to eliminate casing heat.

When the pipe and packer installation is complete, the operator connects the well with a gas engine driven air compressor, and air heated under compression to a temperature of 300 degrees F. is forced down the line. This is continued for a period of from 48 to 60 hours, or until air pressure at the casing head registers 800 pounds. The compressor is then stopped, and the air released. The outrush of air brings with it into the well chamber melted paraffin, sludge and residue from the sand. Natural rock pressure aids in filtering this residue from the sand, and afterwards the well chamber is cleaned with a suction bailer. In some cases, one treatment of hot air is sufficient to clean the sand, usually the compressor must be used a second, and even a third time. Pressure and temperature in each case is applied in the same manner. This intermittent treatment solves the sand-cleaning problem in more than 90% of stripper wells, and in practically every case there is a marked rise in gas volume and oil production.

In the majority of oil fields, several wells are treated at the same time from a centrally located compressor. In these cases, asbestos boiler jacketing is used around the cylinders to conserve heat, and pipes leading to the wells are insulated with asbestos wrappers, heavily coated with asbestos roofing cement. All connections, as protection against sweat and rust, are wrapped in waterproof tape. Pipes which pass closely to electric or gas-driven engines are underlaid with asbestos insulation board to eliminate risk of fire.

Africa (Rhodesia)

(Statistics published by Rhodesia Chamber of Mines.)

	March 1937 Tons (2000 lbs.)	Value £	s	d
Bulawayo District				
Nil Desperandum (Afr. Asb. Mng. Co., Ltd.)	436.70	7,163	11	6
Shabanie (Rhod. and Gen. Asb. Corp. Ltd.)	3,578.30	50,204	15	4
Pangani (Pangani Tributors), Dec., Jan.	13.00	82	4	0
Victoria District				
King and Gath's (Rhod. and Gen. Asb. Corp. Ltd.)	602.32	8,293	15	6
	4,630.32	65,744	6	4
March 1936	*4,623.53*	*£62,704*	*16*	*3*

Africa (Union of South)

(Statistics published by Dept. of Mines & Industries of U. of S. A.)

	March 1937 Tons (2000 lbs.)
Transvaal	
Amosite	487.86
Blue	40.05
Chrysotile	1,281.09
Cape	
Blue	344.34
	2,153.34

Canada

(Statistics published by Bureau of Mines, Province of Quebec)

	April 1936 Tons (2000 lbs.)	April 1937 Tons (2000 lbs.)
Fibre	19,605	42,267

There has been some inquiry for an asbestos deposit or mine in Canada. Information if sent to "ASBESTOS" will be reflected to the proper parties.

Imports into U. S. A.

(Figures published by U. S. Dept. of Commerce)

Unmanufactured Asbestos:

	March 1936 Tons (2240 lbs.)	March 1937 Tons (2240 lbs.)
Africa (Br. S.)	100	1,638
Canada	13,541	24,536
Cyprus, Malta & Gozo	233	.....
Finland	33	.....
France	....	109
Italy	....	4
United Kingdom	5	....
	13,912	26,287
Value	$446,164	$998,736

Tabulation by Grades:

Crude (Br. S. Africa)	100	1,638
Crude (Canada)	154	188
Crude (Italy)	....	4
Crude (United Kingdom	5	....
Mill Fibre (Canada)	4,462	7,815
Lower Grades (Canada)	8,925	16,533
Lower Grades (Cyprus, Malta & Gozo)	233	.....
Lower Grades (Finland)	33	.....
Lower Grades (France)	....	109
	13,912	26,287

Manufactured Asbestos Goods:

	March 1936 Pounds	March 1936 Pounds
Austria (Packing Fabric)	1,158	1,887
Belgium (Shingles)	98,800	58,413
Belgium (Woven Fabrics)	1,085	.....
Germany (Yarn)	1,161	.....
United Kingdom (Packing Fabric)	2,187	3,897
United Kingdom (Woven Fabrics)	3,513	1,427
United Kingdom (Yarn)	2,003	7,252
	109,907	72,876
Value	$ 8,112	$7,234

Exports from U. S. A.

Exports of unmanufactured asbestos for the month of March 1937 were 63 tons, valued at $3,945; compared with exports in March 1936 of 288 tons, valued at $32,992.

Exports of Manufactured Asbestos Goods:

	March 1936		March 1937	
	Pounds	Value	Pounds	Value
Paper, Mlbd. & Rlbd.	197,782	$17,568	120,271	$25,408
Pipe Covg. & Cement	93,701	5,957	469,874	25,682
Textiles & Yarn	119,724	50,719	7,276	2,719
Brake Lining—				
Molded & Semi-molded	.....	61,535	.....	53,351
Not molded	114,550[1]	17,756	199,340[1]	29,340
Clutch Facings—				
Molded & Semi-molded	1,161[3]	229	20,404[3]	7,485
Woven	.....	.....	21,165[3]	3,875
Packing	(Inc. in Textiles & Yarn)		138,840	67,973
Magnesia and Mfrs. of	86,066	5,860	387,174	28,653
Asbestos Roofing	2,718[2]	9,280	1,645[2]	4,256
Other Manufactures	206,607	15,202	207,008	18,844

[1]Lin. Ft. [2]Sqs. [3]Units

Imports and Exports by England

Imports of Raw Material.

	April 1936		April 1937	
	Tons (2240 lbs.)	Value	Tons (2240 lbs.)	Value
From Africa (Rhodesia)	1,667	£37,956	2,313	£53,626
From Africa (Union of S.)	1,530	20,775	752	12,282
From Australia	4	68	3	233
From Canada	233	2,737	333	5,545
From Cyprus	87	1,223	85	953
From Denmark	100	1,634	.....	.....
From Finland	5	34	.....	.....
From Italy	....	.....	1	77
From Netherlands	....	.....	102	4,931
From Soviet Russia	31	1,023	40	1,695
From United States	....	.....	4	25
	3,657	£65,450	3,633	£79,367

Imports of Asbestos Manufactures:

	1936		1937	
	Cwts.	Value	Cwts.	Value
January	25,619	£10,229	33,735	£ 13,913
February	9,693	6,045	48,041	16,877
March	29,095	9,816	23,474	8,210
April	15,056	7,473	82,227	24,837

England (cont'd)

Exports of Asbestos Manufactures:

	Cwts.	Value	Cwts.	Value
	April 1936		April 1937	
To Irish Free State	3,185	£2,973	2,174	£ 2,507
British India	5,312	7,657	6,262	11,061
Australia	614	4,429	872	5,691
Other British Countries	10,857	18,162	19,917	28,857
Belgium	389	2,473	678	4,565
France	487	3,459	625	3,288
Italy	....	....	683	6,234
Netherlands	1,673	4,631	1,716	6,276
Other Foreign Countries	6,959	25,658	9,196	32,633
	29,476	£69,442	42,123	£101,112

Exports of Raw Asbestos from Canada

(Figures published by Dominion Bureau of Statistics)

	April 1936		April 1937	
	Tons (2000 lbs.)	Value	Tons (2000 lbs.)	Value
United Kingdom	131	$ 8,255	1,052	$ 82,616
United States	4,349	222,479	7,804	409,054
Australia	39	1,920	.....	.....
Belgium	230	10,950	130	8,300
France	51	1,945	40	2,050
Germany	184	12,039	328	34,748
Italy	57	2,707	70	3,326
Japan	515	17,782	2,105	80,859
	5,556	$278,077	11,529	$620,953
Sand and Waste				
United Kingdom	180	3,310	420	8,040
United States	9,646	152,809	16,688	287,730
Brazil	5	50	.....	.....
France	.....	.....	60	1,322
Germany	80	1,790	99	2,178
Netherland	....	.....	11	242
	9,911	157,959	17,278	299,512
	15,467	$436,036	28,807	$920,465

Exports of Raw Asbestos from South Africa

	February 1937	
	Tons (2000 lbs.)	Value
Australia	119	£ 1,445
Belgium	45	791
Chile	30	366
France	123	1,988
Germany	81	1,759
Holland	16	325
India	43	261
Japan	260	3,742
United Kingdom	393	4,968
United States	229	4,736
	1,339	£20,381

ASBESTOS PAPER--

for sound deadening

New, at least to us, is the use of Asbestos Paper between layers of metal wallboard.

A firm in York, Pa.[1] make a metal wallboard for interiors. The wallboard is recommended for its beauty, smartness, sanitation, and other attributes.

A light sheet of asbestos paper is used between the outside and inside member of their steel board, the paper being used for sound deadening purposes and of no other value to their construction.

Just another use which should add quite a bit to Asbestos Paper volume.

[1]Martin-Parry Corp.

American industralists will have an opportunity to observe developments in European rubber research this summer during a unique tour of scientific laboratories arranged by the National Research Council's Division of Engineering and Industrial Research.

The tour will enable them to visit such outstanding scientific laboratories as the Rubber Research Laboratories in England, the Cavendish Laboratory at Cambridge, l'Ecole Nationale des Arts et Matiers, the Grousote Works in France, the Siemens Laboratories and the Kaiser-Wilhelm Institute of Germany.

Research laboratories of eighteen major fields of industry will be visited in England, France and Germany, besides those of trade associations, governments, etc.

NEWS OF THE INDUSTRY

BIRTHDAYS

J. E. Triganne, Sales Manager, Asbestos Corporation, Limited, Thetford Mines, P. Q. Canada, June 17th.

John R. Livezey, Philadelphia, Pa., June 19th.

C. A. Schell, Vice President, Thermoid Rubber Co., Trenton, N. J., June 22nd.

A. F. Moore, Philip Carey Co., Lockland, Cincinnati, O., June 26th.

A. H. Bennett, President, A. H. Bennett Co., Minneapolis, Minn., June 27th.

Chester A. Middleton, Managing-Director, Johns-Manville Corporation of Brazil, Sao Paulo, Brazil, June 27th.

L. B. Palmer-Ball, President, Palmer Asbestos Co., Louisville, Ky., June 29th.

Frank Schueler, Illinois Philip Carey Co., Chicago, Ill., June 30th.

George L. Hammons, President, United States Asbestos Co., of Illinois, Chicago, Ill, July 4th.

O. J. Garlock, President, Crandall Packing Co., Palmyra, N. Y., July 5th.

Chas. S. Wood, President, Chas. S. Wood & Co., 27 Lombardy Place, Newark, N. J., July 6th.

A. M. Ehret, Jr., President, Ehret Magnesia Mfg. Co., Valley Forge, Pa., July 11th.

George Schafenacker, Treasurer, Asbestos Fibre Spinning Co., North Wales, Pa., July 14th.

Congratulations and best wishes to all these gentlemen on the occasion of their birthdays.

TURNER & NEWALL, Limited, announce the appointment of Roland Starkey, M. Inst. M. M. as a director of the firm. Mr. Starkey has had charge of the company's mining interests in Southern Rhodesia and the Union of South Africa since 1923, and was associated with the company for five years previously.

South African Mining & Engineering Journal.

GENERAL ASBESTOS & RUBBER DIVISION at North Charleston, S. C., is starting a new department known as the "BK" Hose Department, and the necessary machinery and equipment is being installed. "BK" hose is a special type of hose for use with hydraulic brakes on motor vehicles, especially on trailers and larger trucks. Later it is contemplated to install a department for the manufacture of rubber cover roll, for which an additional building will be erected. $50,000 will probably be expended in the installation of the two new departments.

TURNER & NEWALL plan to establish a modern asbestos-cement factory in Scotland. The present asbestos-cement factories of Turner & Newall (operated thru Turners Asbestos Cement Co.) are located at Manchester, Widnes, Erith and Rhoose and the new factory will complete the geographical distribution of the points of manufacture by the erection of the factory in Scotland, probably located in the great Clyde industrial area.

RAYBESTOS—MANHATTAN, INC., announce that in the quarter ended March 31, 1937, the net income of the company was $674,504.41 or $1.06 per share on the Company's stock, after providing for all charges, expenses and taxes, and adding $50,000 to the Reserve for Contingencies for the Surtax on Undistributed Profits. In the same quarter of the year prior, Net Income was $365,720.78, or 57c. per share, before providing for the Surtax.

The Directors at their meeting on May 19th declared a quarterly dividend of 37½c. per share, payable June 15, 1937, to stockholders of record at the close of business May 28, 1937.

JOHNS-MANVILLE has recently issued two new advertising pamphlets—"Lower Furnace Operating Costs with JM-20 Insulating Brick" with tables of heat losses, drawings showing the application of the brick to twelve types of industrial furnaces and other helpful information; the other pamphlet is devoted to corrugated asbestos-cement sheathing and explains the application of this material by drawings showing construction details; and photos of typical installations, this latter pamphlet being issued under the title "The Maintenance Crew walks by after you build with J-M Corrugated Transite."

JOHNS-MANVILLE announces that work will be started as soon as possible on the first unit of a $1,000,000 factory to be located on a 50-acre plot of land in Watson, suburb of Los Angeles, California.

The new factory will produce rock wool home insulation and transite asbestos-cement pipe. It is expected that this new plant will employ approximately 300 men.

FRED PATEE, of Casper, Wyoming, who readers will remember placed on the market some years ago, an asbestos cement chimney, and later, we understand, made an asbestos cement shingle, passed away on May 11th, as a result of two unsuccessful operations.

PATENTS

Woven Friction Lining. No. 2,074,128. Granted on March 16 to William Nanfeldt, Clifton, N. J., assignor to Worldbestos Corp., Paterson, N. J. Application April 29, 1931. Serial No. 533,631.

1. In a woven friction material a plurality of layers of fabric formed of hard short fibre asbestos yarn and a plurality of binder threads formed of soft, asbestos containing, long fibre yarn holding said fabric layers together, said soft yarn being

absorbent relative to the hard yarn whereby impregnating fluids may be freely carried into the body of the lining.

Wall Assembly. No. 2,075,955. Granted on April 6 to Raymond V. Parsons, New York City, assignor to Johns-Manville, April 24, 1935. Serial No. 17,942. Description upon request.

Friction Material. No. 2,077,669. Granted on April 20th to Donald S. Bruce, Somerville, N. J., assignor to Johns-Manville Corporation. Application June 1, 1934. Serial No. 728,429.

A friction material comprising a continuous base of felted fibres, a friction compound impregnated thereinto and adapted to strengthen and harden the edges and to withstand temperatures prevailing during use of the material, upwardly projecting portions of the surface of the impregnated base material, intervening depressions therein constituting reservoirs and a friction compound disposed over the said surface and filling the reservoirs.

Fibrous Structures, Apparatus for Making. No. 2,078,272. Granted on April 27, to Izador J. Novak, Bridgeport, Conn., assignor to Raybestos-Manhattan, Inc., Passaic, N. J. Original application Dec. 27, 1932. Serial No. 648,921. Divided and this application May 21, 1934. Serial No. 726,683.

1. In combination with means for felting fibers in aqueous suspension into a relatively wet web, of means for saturating said wet web comprising synchronously moving foraminated surfaces, the upper of said surfaces consisting of a rotatably mounted screen roll and the lower of said surfaces consisting of an endless porous screen, means for passing said wet web into contact with, and confining said wet web between, the opposed faces of said foraminated surfaces, a bulk supply of saturant, means for passing said wet web while confined between said foraminted surfaces through said saturant, means beyond the bulk supply for releasing said wet web from said confinement below the horizontal plane of the axis of said screen roll, means immediately adjacent said releasing means for condensing the web to remove excess liquid, a second condensing means remote from said first mentioned condensing means, for removing remaining excess saturant from the web, and means for leading the foraminated surface carrying said web from the first mentioned condensing means to the second mentioned condensing means.

Endless Clutch Facing. No. 2,079,173. Granted on May 4 to Morton F. Judd, Stratford, Conn. Assignor to Raybestos-Manhattan, Inc., Passaic, N. J. Application October 3, 1934. Serial No. 746,707.

Method of making friction clutch rings which comprises forming a cylinder of textile material comprising essentially Asbestos Yarn, folding said textile material along a circumferential line, flattening the folded cylinder to form an annular ring so as to dispose the edges on one flat surface intermediate the

inner and outer defining edges of the ring and curing the ring thus formed.

Flexible Wallboard. No. 2,080,285. Granted on May 11 to John Comrie MacIldowie, Nashua, N. H. Assignor to Johns-Manville Corporation, New York. Application Sept. 11, 1934. Serial No. 743,498.

In making a fibre reinforced cementitious product, the method which comprises forming a composition of asbestos fibres, Portland Cement and water into soft laminae, containing fibres oriented in predominating proportions in a direction generally parallel to the plane of the several laminae, combining the soft laminae into a sheet under low pressure; strongly compressing the sheet between a water-permeable member of the type of a wire screen and a cement flexible metal plate of plane surface, causing the said sheet to become locked on one face into said screen, causing said plate under high pressure to move slightly laterally with respect to the surface of the said sheet, releasing the pressure separating the said screen from the said sheet and allowing the sheet to harden.

Wall Assembly and Stud. No. 2,081,368. Granted on May 25 to Armand V. Pretot, New Providence, N. J., assignor to Johns-Manville Corporation, New York. Application July 11, 1935. Serial No. 30,787. Description upon request.

Railway Sleeper. No. 2,082,399. Granted on June 1st to Umberto Isman, Trieste and Ettore Modiano, Bologna, Italy. Application March 10, 1933. Serial No. 660,326. In Italy February 10, 1933.

Railway sleeper composed of a cement and fibrous asbestos agglomerate having a uniform and highly compact structure throughout obtained by compressing a moistened mixture of cement and fibrous asbestos from different directions by forces which are proportional to the areas compressed thereby, reinforcing bars near the lower sleeper face under the rail supports and reinforcing bars near the upper sleeper face in an intermediate section between the rail supports, said second reinforcing bars being separate and independent of the first-mentioned bars and lying in a different horizontal plane from said first-mentioned bars.

AUTOMOBILE PRODUCTION

Automobile Production for April 1937 totalled 553,415 motor vehicles (U. S. A. 536,334 and Canada 17,081) compared with 527,625 for April 1936 (502,674 in U. S. A. and 24,951 in Canada).

For the first four months of 1937 the total number of motor vehicles produced was 1,855,724 (1,774,652 in U. S. A.; 81,072 in Canada); while for the same period in 1936 the total was 1,644,622 (1,575,080 in U. S. A. and 69,542 in Canada.)

A BIT OF HISTORY--

Testifying to the Efficiency of 85% Magnesia Coverings

"Gentlemen—My boilers and steam pipes have been covered with your Magnesia Sectional Covering. It is very neat looking on the pipes and the whole job is done in good style.

"It is really more saving on fuel than I expected, as I have been burning ten barrels of coal a day; now it takes only eight to do the same work, saving 350 pounds of coal a day. The company is pleased with the result.

Yours, etc.,
(Signed) EDWARD J. STONE,
Engineer Bordentown Water Works."

This letter was written March 16, 1889. It was addressed to Macan & Company and was found among some old papers belonging to the late W. A. Macan who, readers will remember, as Vice President of Ehret Magnesia Manufacturing Company of Valley Forge some fifteen years ago.

WHITE ASBESTOS FIBRE

Some asbestos-cement products are made up in white or very light colors, and the greyish asbestos fibres show up rather badly.

Our January number asked for samples and information concerning "very" white asbestos fibre suitable for use in the manufacture of these light colored materials and the response to this request was rather surprising.

We received several samples from Arizona, one from Africa and a specimen from a deposit in Utah said to be of tremolite or white fibrous amphibole.

No one, however, has sent any information as to a process of "whitening" the regular greyish asbestos fibre. Has any development work been done along this line? If so it would be interesting to know about it even if details of the process or experiments cannot at the moment be divulged.

THIS and THAT

Glass Fibres. One of our readers has very kindly sent us a sample of cloth woven from glass fibre. While of a very lovely appearance, it has not great tensile strength and appears to snag easily.

The Specialties Division (Thomas Burke, Chief) of the Bureau of Foreign & Domestic Commerce, Washington, D. C., has prepared a Special Circular No. 1539-13—Recent Glass Wool Developments abroad, which contains a lot of information and, we believe, can be obtained by addressing Mr. Burke. The paper was prepared by Edward J. Detgen of the Specialties Division..

Bureau of Safety. A Bureau of Institutional Safety sponsored by the Signalling Apparatus Section of the National Electrical Manufacturers' Association was recently organized, its particular objective being a campaign against fire hazards in public buildings, particularly school structures. Further information can be obtained from Edward M. Rice, Bureau of Institutional Safety, 155 E. 44th street, New York City.

A. S. H. V. E. Guide 1937 is ready for distribution at $5.00 a copy, available thru the office of "ASBESTOS" or from the American Society of Heating and Ventilating Engineers at 51 Madison Ave., New York City. It covers most comprehensively the subjects of Heating, Ventilating and Air Conditioning, with graphs and much helpful information.

Leipzig Trade Fair will be held from August 29th to September 2nd, the 1978th session of the Fair which has been held without interruption for over 700 years. The last Fair showed sales of $200,000,000, of which $64,000,000 was for export to all parts of the world.

Crudes. Interesting to note that of 3,440 tons of Crude shipped from Canada in 1936, 2,281 tons (2,037 long tons as noted on page 30 of March 1937 "ASBESTOS" converted to short tons) were imported, and presumably used in, the United States, thus leaving the small tonnage of 1,159 for all other countries. These figures, of course cover all grades of Crude No. 1, No. 2 and Sundry.

Amosite. A new discovery of amosite asbestos is reported on the farms Dublin, Nice and Eton on the Olifant's River in the Pietersburg District, Union of South Africa.

"Man in a Chemical World" by A. Cressy Morrison, is designed to place before the public, in simple language, the unsurpassed contribution of the chemical industry to the well-being of the individual and its unparalleled place as a contributor to human comfort, protection and the advancement of civilization. It is presented by the Chemical Industries Tercentenary Committee as the final act in completing the celebration of the three centuries of constructive achievement by chemical industries in America. Obtainable at Charles Scribner's Sons, 597 Fifth Ave., New York, the publishers, at $3.00 a copy.

A. S. T. M. Meeting. June 28 to July 2nd will mark the 40th Annual Meeting of the American Society for Testing Materials, to be held at the Waldorf-Astoria Hotel, New York City. "Fuels of Today and Tomorrow" will be the subject of the presidential address by Dr. A. C. Fieldner, Chief Technologic Branch, U. S. Bureau of Mines.

Religion. "Believing that a world war is due, a religious order has applied to the municipal council of Subiaco, a suburb of Perth, Western Australia, for permission to erect an asbestos tower in which to intercede for Australia to be spared from attack." Asbestos has probably been selected because of the burning phrases in which the intercessions are to be made.

Verse. In Johannesburg, South Africa, pupils of the various schools visit local factories and thus gain a practical knowledge of the industries in their home town. Asbestos Products Limited manufacturers of Asbestos cement products, millboard, etc., usually offer prizes in connection with such visits, for the best essay on the subject of asbestos. A few gems from these essays are:

"People of our modern world should, as some say, kiss the feet of the discoverers of the most useful mineral that has ever been known."

"Asbestos! How stirring is that name and how much does it convey to you! I hope it may be engraved upon the minds of the rising generation." (Age 13)

"May this fireproof invaluable substance be used until Gabriel blows his horn!"

One boy (age 14) even broke into verse—we quote in part:

"Asbestos Cement is a wonder
For one cannot tear it asunder
It will not break
For anyone's sake
Not even for lightning or thunder!"

MEN WHO WIN

I once knew a man who would figure and plan the deeds he intended to do, but when the time came to get into the game, he never put anything through.

He would dream with a smile of the after-awhile, and the deeds he would do "pretty soon." He was all right at heart, but he never would start—he never could get quite in tune.

If he would have done half the things he'd begun, he'd be listed among those of fame, but he didn't produce, so he was of no use—good intentions do not win the game.

It is easy to dream and to plan and to scheme, and let them drop out of sight, but the men that put through what they start out to do, are the men who win out in the fight.

—*Edgar L. Jones.*